APPENDIX C

Results

by

Kenneth J. Adler

Zena L. Cook

Margo J. Vickers

Preface

Appendix C reports the findings of the empirical investigations, which up to this point have only been briefly described. Details regarding the steps undertaken to formulate the most appropriate and statistically significant model, in addition to all the statistical results, are presented here.

APPENDIX c

RESULTS

The results of the empirical findings for both Pleasant Plains samples and the Andover sample are presented in detail in this Appendix. All of the relevant steps are presented in Tables 1-27 for the Pleasant Plains samples and in Tables 28-37 for the Andover sample.

A. Pleasant Plains

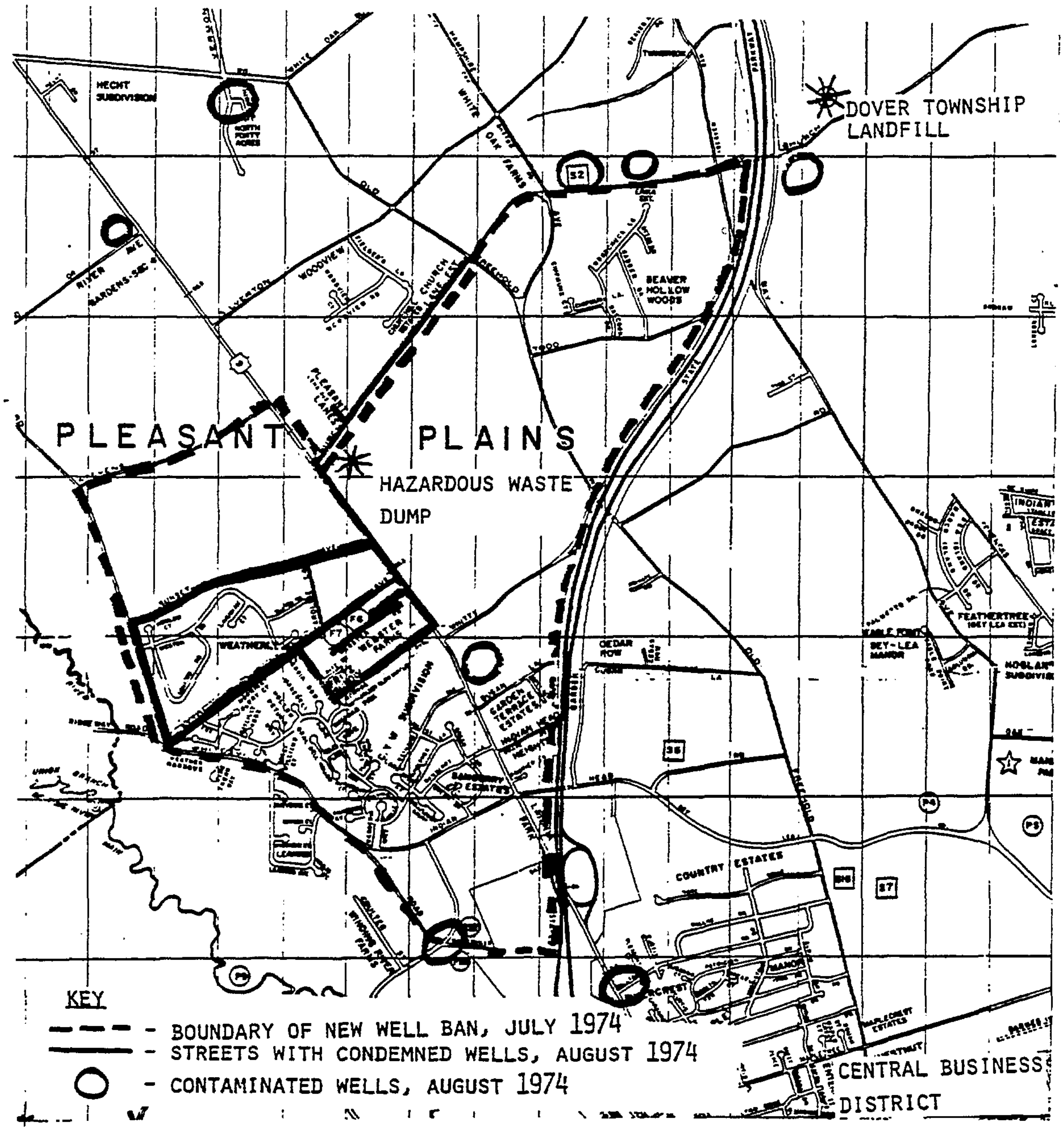
The hazardous waste dump is located in the central part of Pleasant Plains at the intersection of Church Road and Route 9 (see Map 1). Only a few scattered residences surround the dump. However, farther away from the dump the area is more populous and about one-half mile away there is a large residential development with an approximate population of 5,000.

The Pleasant Plains model was specified to include several housing characteristics, area specific information and some socioeconomic data which were thought to be important determinants of housing price. The model was chosen with regard to the existing literature, consultations with local realtors and the tax assessor's office, field trips to Pleasant Plains and prior knowledge and understanding of the housing market.

The model was formulated both to provide a good description of the housing market and to provide evidence on the effects of the waste site. Two criteria were used together to generate the best descriptive model. On the one hand, an attempt was made to generate the most statistically significant model by initially using the stepwise inclusion technique to maximize the $\bar{R}^2$, thereby excluding those variables which were below the critical level of significance. (The results of the stepwise equations

Map I

Map of the Pleasant Plains Study Area



SOURCES:

PATRICIA HANLON, "NEW WILLS BANNED IN POLLUTED AREA," <u>DAILY OBSERVER</u>, 18 JULY 1974

U.S. ENVIRONMENTAL PROTECTION AGENCY, OFFICE OF SOLID WASTE MANAGEMENT PROGRAMS, FINAL REPORT - ANALYSIS OF A LAND DISPOSAL INCIDENT INVOLVING HAZARDOUS WASTE MATERIALS DOVER TOWNSHIP, NEW JERSEY, BY M. GHASSEMI (REDONDO BEACH, CA.: TRW SYSTEMS GROUP, MAY 1976), P.26

PATRICIA HANLON "POLLUTED WATER AREA GROWING," <u>DAILY OBSERVER</u>, 6 AUGUST 1974.

"STATE CONFIRMS 2 POLLUTION TESTS," DAILY OBSERVER, 9 AUGUST 1974.

"MEETING SLATED ON WATER LINE," DAILY OBSERVER, 16 AUGUST 1974.

are presented in Tables 4 to 6.) On the other hand, attention was paid to the problem of multi-collinearity and toward specifying the model in the theoretically most appropriate way. For example, since house area in square feet was statistically the most significant of the variables that capture house area (which includes bathrooms, rooms, bedrooms, attic and basement), bedrooms and rooms were thereafter excluded because they were considered to be alternative measures of house size and also because they were below the critcal F value.

The first regression, the results of which are presented in Table 1, is a simple linear specification with all the relevant variables included. In this model, distance from the dump expressed as a linear term was significant with the correct sign and, for the most part, all the independent variables had the expected signs except lot size for which the coefficient was statistically insignificant.

Multi-collinearity was found on inspection to be particularly a problem with respect to lot size, house density and outbuildings, the latter, which were measured in square feet in addition to house density, were highly correlated with lot size. This is because house density and lot size are simultaneously determined. House density measures the number of houses per acre in an enumeration district which, in turn, is determined by the size of each lot. Since house density as measured was less reliable,[1] it was dropped from the equation in lieu of lot size even though the significance of the coefficient on lot size fell below the critical F.

[1]House density is the number of housing units per acre. This means that, depending on the starting point for measuring an acre, a particular house could end up with any of a number of different values.

We were not totally satisfied with the results from the first equation and so efforts were made to improve the overall results by respecifying the model in various other forms. In general, on the basis of the stepwise process, the semi-log specification produced better results than property values entered as a linear term, both in terms of individual variables and the overall fit of the equation. The variable measuring distance to the dump was significant in both its linear and semi-log forms. However, quadratic and reciprocal transformations did not produce significant results.

Further analysis of the results was undertaken by examining the residuals. For this purpose a regression was run with all variables measuring distance from facilities omitted. It was expected that any unexplained variation in the model which was geographically concentrated could be identified and possibly explained. Upon inspection of a detailed map of the area, it was discovered that for the majority of cases the high residuals were congruous with extremely large lots. It was felt that since the zoning variable only captures the present zoning restrictions, which can be changed, these lots could likely be subdivided in the future. The zoning variable was, therefore, thought to be an inadequate measure of the potential value of these lots. Thus, all lots larger than two acres were omitted from the sample, except those which could not, for other reasons, be subdivided.[2] (See equations 7-27 for the equations generated without the large lots.) Further, the number of outbuildings was substituted for the area of outbuildings (square feet) in order to make that variable more independent of lot size.

---

[2] These lots do not appear to have any physical capabilities for accommodating access roads.

Of the variables omitted after equation 6, Distance from Route 9 (DAR) was omitted because the correlation coefficient indicated some collinearity with other distance variables. For example, the value of the correlation coefficient with DAR and Distance from the Central Business District was .51 and DAR with Access to the Parkway was .68. In these cases, DAR proved to be the most statistically insignificant of two variables that are highly collinear. Hence, DAR was omitted and the more significant variables retained.

Additional changes to the model were made on the basis of further inspection. For instance, it was felt that more observations were required outside of a one and a half mile radius from the waste dump to be able to interpret the distance gradient and establish whether an equilibrium is approached. At this stage, approximately 60 more observations were added. (Tables 7 to 27 reflect the larger sample.) The changes documented above seemed to improve the results overall and, in particular, the lot size variable.

Analysis of the data from this stage was concentrated in general on the effect of the waste site and specifically on the distance variables and the demarcated zones of contamination. Two contaminated zones were identified by the New Jersey Department of Environmental Protection and designated Zone 1 and Zone 2. Zone 1 is where the capping of wells was ordered and the complete hook-up to the municipal water supply undertaken. Zone 2 represents the area where property owners were ordered to dig wells to the deeper aquifer.

For focus on the contamination, the sample of sales which occurred before the contamination episode was introduced for analysis. The two samples, one consisting of transactions which occurred before 1974 and the other of transactions after 1974, were examined for possible differences with respect to the areas "inside" the zones and the areas "outside" the zones. (See Map II.) Two subsamples, one representing the observations "inside" the combined contamination zones and the second characterizing observations "outside" the zones, were run separately using the same model for both the before and after contamination samples. The results of these are presented in Tables 7 to 10. A Chow test was used to determine whether there were significant differences, on the one hand, between sales "inside" the contaminated area and the "outside" for the period before contamination and, on the other hand, between sales "inside" and those "outside" for the post-contamination period.[3] Thus, it appears that the "contaminated" area was more significantly different from the uncontaminated area after, than before, contamination.

Because of the time differences between the "before" and "after" samples, we were unable to use the same test to determine differences for those samples.

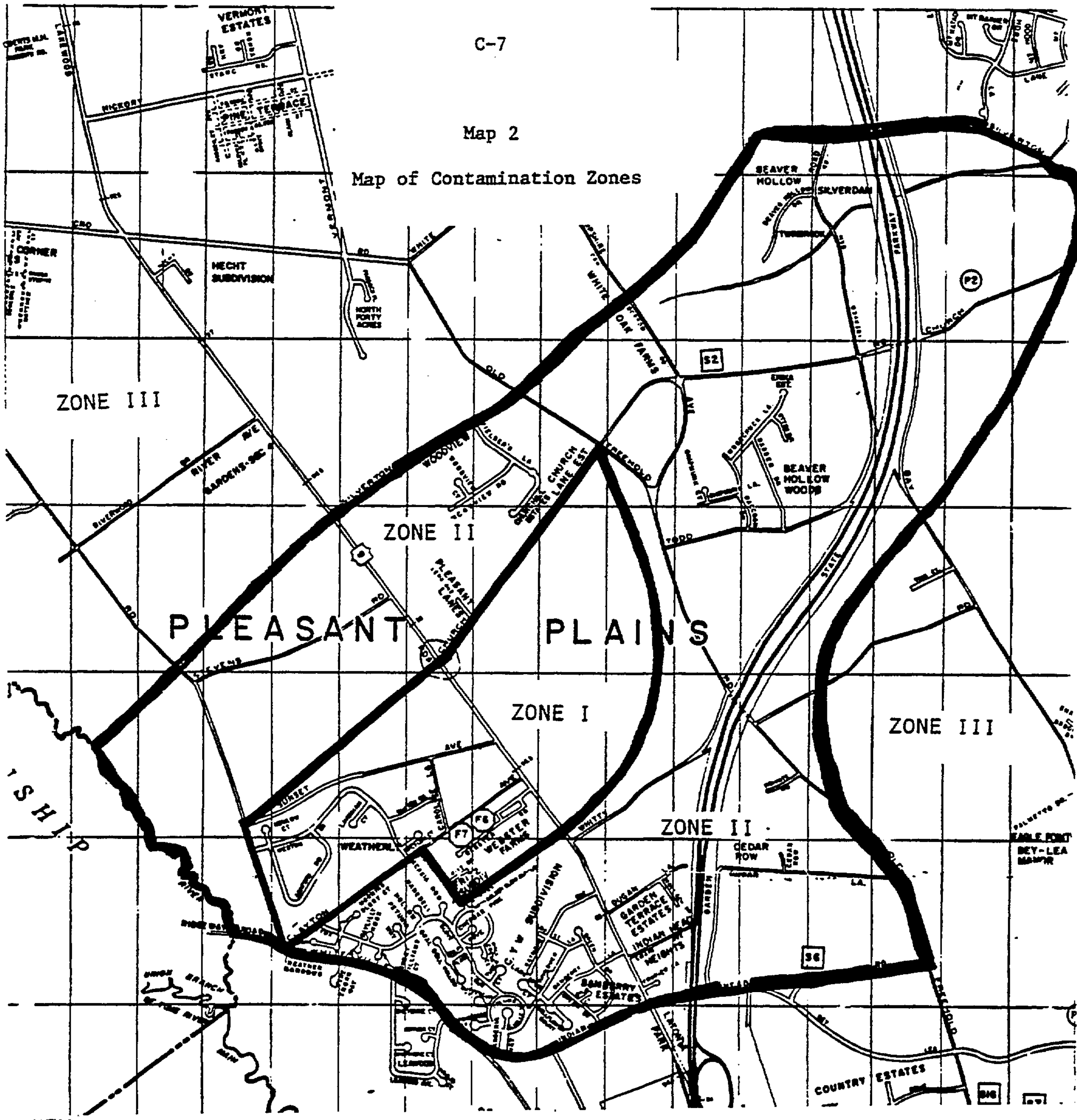
Further investigation was undertaken to determine whether the contamination effect could be identified in any single variable in the equation other than a specific contamination variable. We were particularly interested in the sale date variable since there is reason to believe that price increases were not as strong "inside" compared with "outside"

---

[3]The F statistic for the "after" sample was 2.13. This was above the critical F of 1.67 at the 1% level of significance. The F statistic for the "before" sample was 1.46, which is above the critical F of 1.39 for this model at the 5% significance level, but below 1.59, the critical level for the 1% significance level. In order to use the Chow test, Samples 1 (inside and outside combined) and 2 (inside and outside combined) were run with the same model (Tables 12 and 13).

Map 2

Map of Contamination Zones



KEY

ZONE I - CONTAMINATED
ZONE II - QUESTIONABLE AREA
ZONE III - UNCONTAMINATED

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION, FINAL REPORT - DELINEATION OF EXTENT OF GROUNDWATER CONTAMINATION, PLEASENT PLAINS SECTION OF DOVER TOWNSHIP, OCEAN COUNTY, NEW JERSEY, DECEMBER 1974.

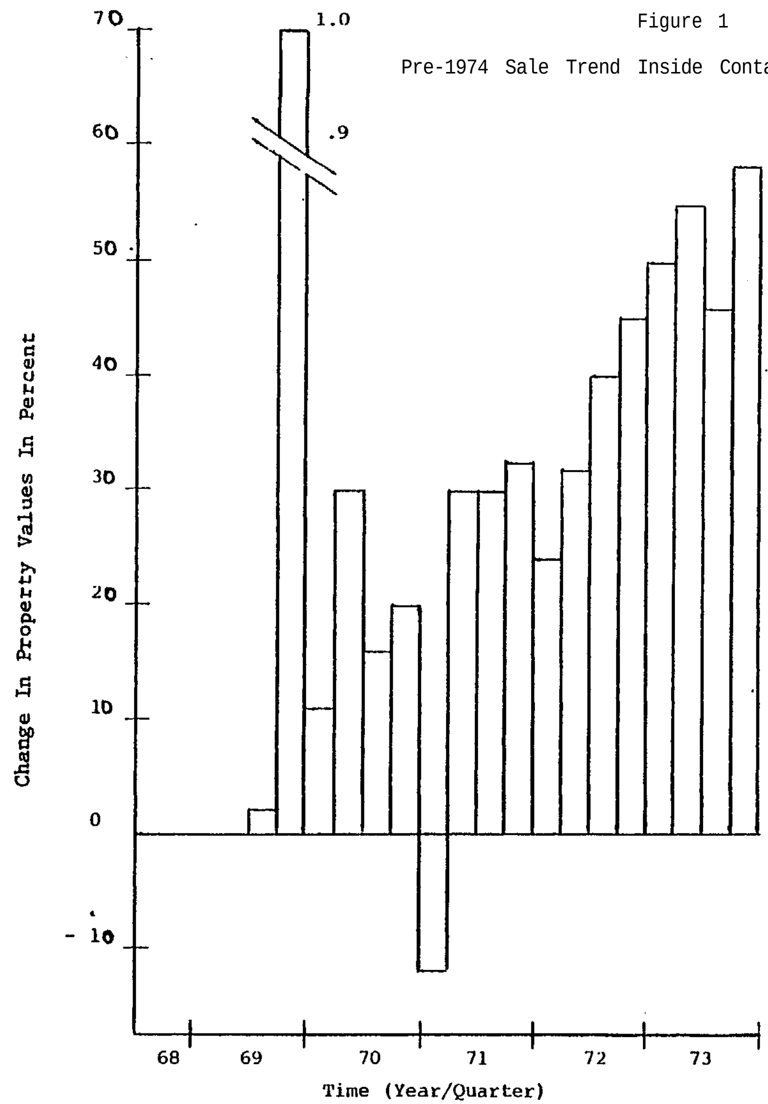
the zone because of contamination. Furthermore, there may have been a time lag before people responded to the contamination episode, in which case the trend would have been dampened, particularly in the latter years following the contamination episode. However, neither of these hypotheses was borne out by the results. Figures 1 to 4 present the sales trend for four subsamples: before "inside" and "outside" the zone and after "inside" and "outside" the zone.

The "after in" subsample, contrary to prior hypothesis, demonstrated a stronger inflation rate than the "after out" subsample. This, coupled with the fact that prices in the "before in" subsample rose more slowly than in the "before out," suggests that the area of Pleasant Plains that was contaminated had become more attractive after the contamination.

Further examination was undertaken to determine the usefulness of the contamination zones for assessing the extent of contamination. Results presented in Tables 17, 25 and 27 suggest that the zone designated by the New Jersey Department of Environmental Protection (DEP) did not necessarily represent the area of concern. Examination of the monitoring results confirms that the areas described as contaminated did not include all areas which had had positive test results. In fact, the contaminated zones denominated by DEP, in its final report of December 1974, did not take account of every monitoring result-only the ones which turned out to be consistently positive. While this may be thought to provide a more reliable picture of contamination, it may not correspond to people's perceptions of reality since they may respond equally to a single positive monitoring result.

Figure 1

Pre-1974 Sale Trend Inside Contamination Zone (Table 7)

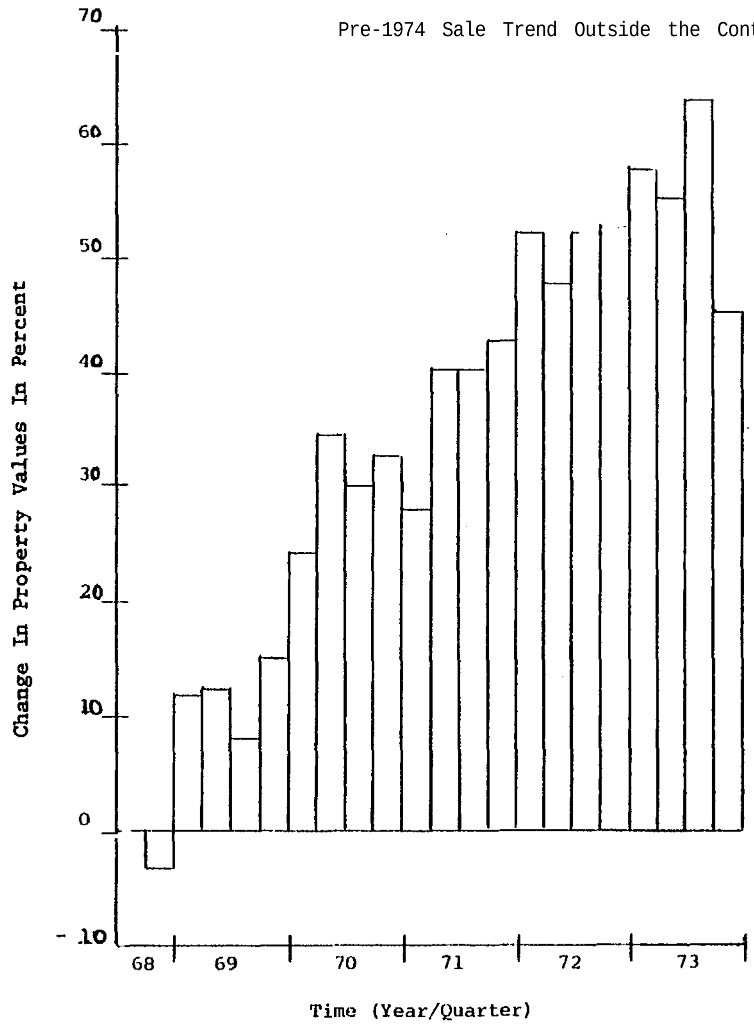


Time Yr/Qtr	Coeff.	F	Obs.
68/3	**	**	0
68/4	**	**	0
69/1	**	**	0
69/2	*	*	2
69/3	.0226	0.029	3
69/4	1.0237	3.787	1
70/1	.1093	0.481	2
70/2	.3008	2.877	1
70/3	.1568	1.531	6
70/4	.1988	2.592	12
71/1	-.1203	.668	3
71/2	.2927	5.638	12
71/3	.2967	5.374	17
71/4	.3239	6.578	19
72/1	.2412	3.087	7
72/2	.3215	6.389	12
72/3	.4038	10.795	11
73/4	.4475	12.828	6
73/1	.5050	14.560	4
73/2	.5534	18.195	8
73/3	.4589	13.854	14
73/4	.5832	21.734	6

*Ommitted Dummy
**No Observations
Obs. - Number of Observations

Figure 2

Pre-1974 Sale Trend Outside the Contamination Zone (Table 8)

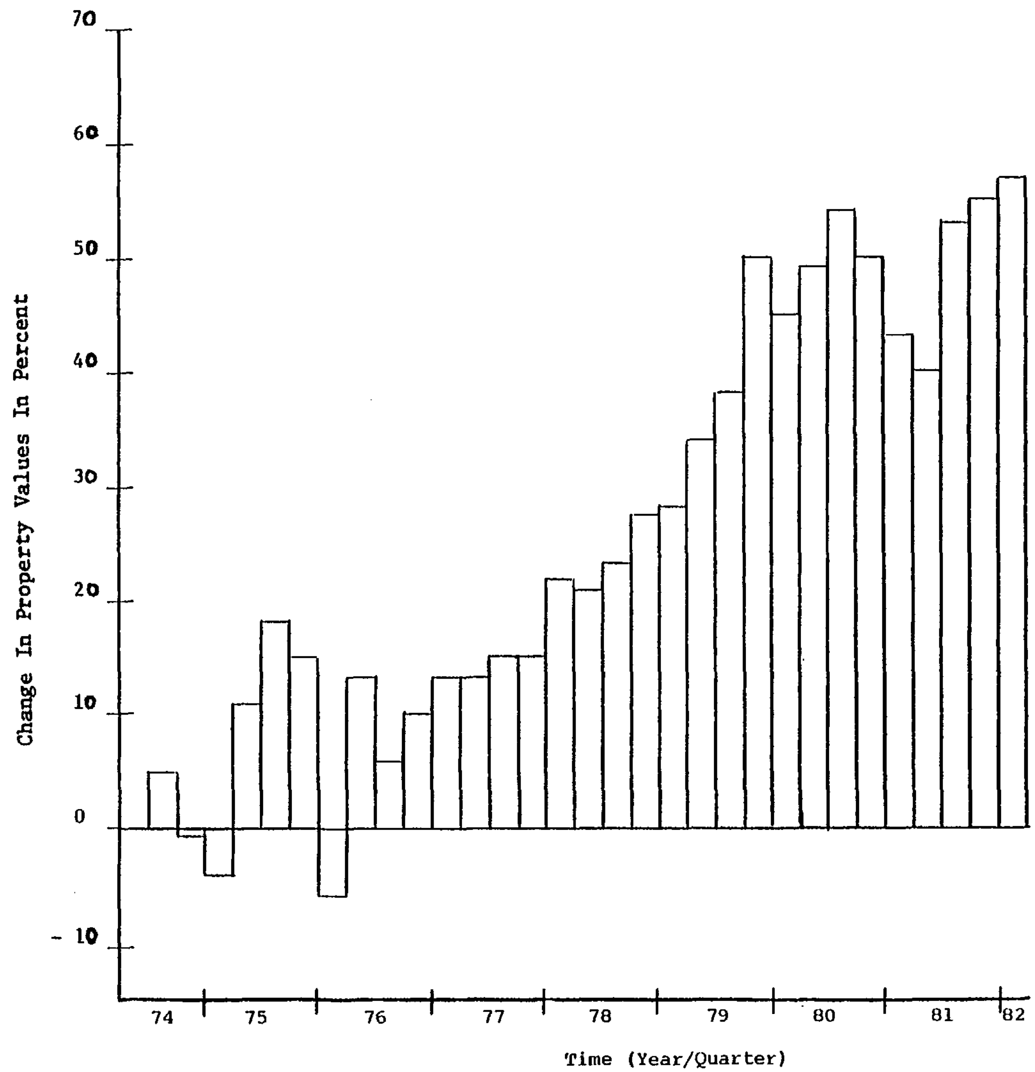


Time Yr/Qtr	Coeff.	F	Obs.
68/3	*	*	1
68/4	-.0340	.020	1
69/1	.1223	.275	1
69/2	.1236	.289	1
69/3	.0823	.149	1
69/4	.1479	.531	3
70/1	.2404	1.556	2
70/2	.3706	3.837	2
70/3	.2956	2.964	4
70/4	.3257	3.618	4
71/1	.2843	1.57	1
71/2	.4041	5.039	8
71/3	.3955	4.601	5
71/4	.4266	4.935	3
72/1	.5181	7.543	5
72/2	.4748	6.649	3
72/3	.5207	8.051	4
72/4	.5242	8.935	3
73/1	.5742	9.838	6
73/2	.5465	7.675	3
73/3	.6340	14.964	7
73/4	.4523	5.736	2

*Ommitted Dummy
Obs. - Number of Observations

Figure 3

Poet 1974 Sale Trend Inside the Contamination Zone
(Table 9)

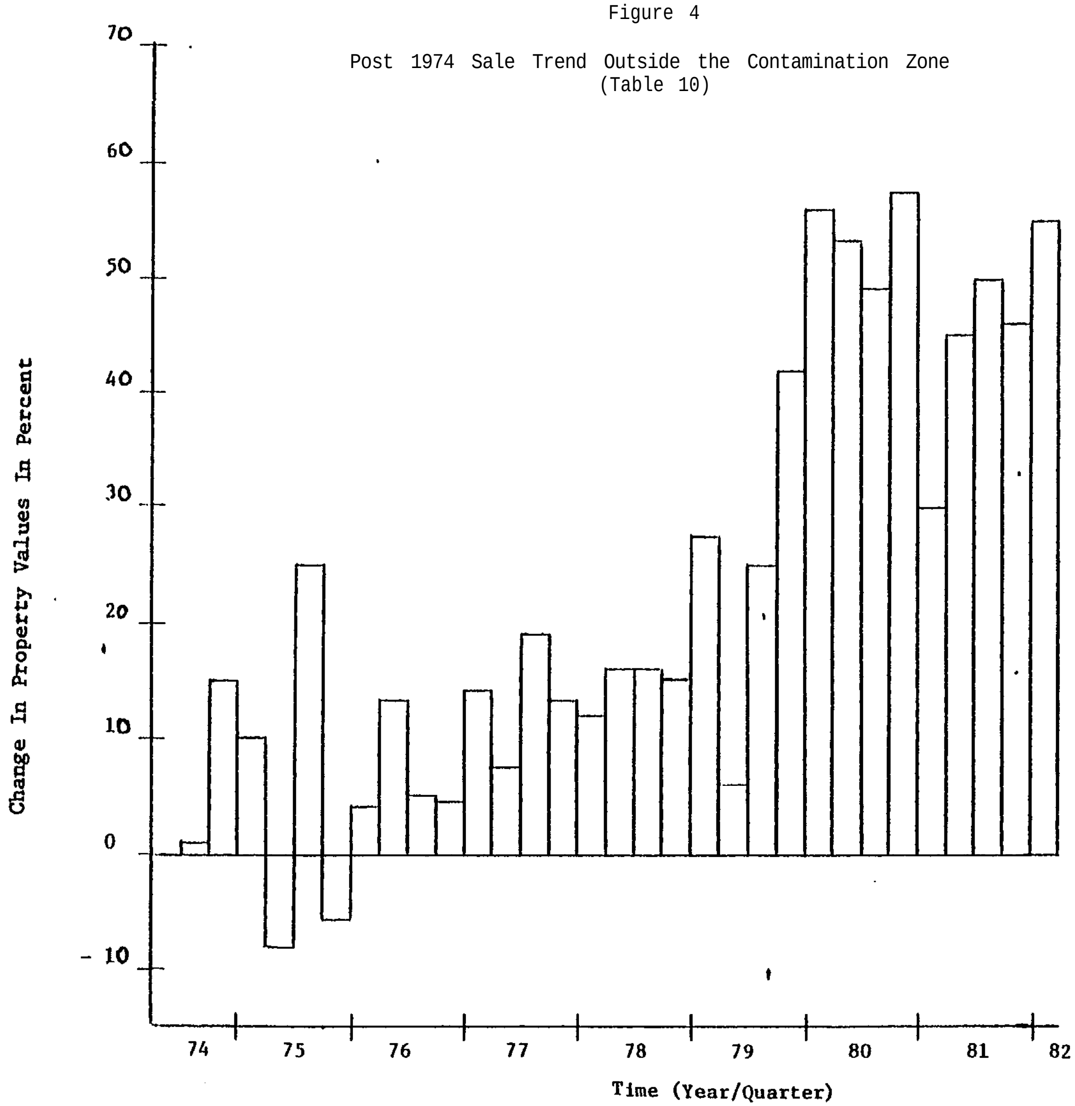


Time Yr/Qtr	Coeff.	F	Obs
74/2	*	*	4
74/3	.0473	.348	5
74/4	-.0076	.012	8
75/1	-.0390	.203	4
75/2	.1138	1.745	3
75/3	.1823	5.944	6
75/4	.1052	1.619	5
76/1	-.0589	.513	4
76/2	.1353	2.845	5
76/3	.0624	.746	8
76/4	.0970	2.244	20
77/1	.1341	4.143	15
77/2	.1291	3.264	8
77/3	.1546	5.049	12
77/4	.1472	5.534	28
78/1	.2152	9.957	12
78/2	.2106	8.291	7
78/3	.2346	12.601	16
78/4	.2757	18.825	24
79/1	.2798	19.004	26
79/2	.3382	27.470	18
79/3	.3809	31.968	14
79/4	.5063	53.981	10
80/1	.4471	40.276	10
80/2	.4891	34.268	4
80/3	.5408	57.620	7
80/4	.5049	48.811	7
81/1	.4340	34.696	7
81/2	.4032	21.140	3
81/3	.5332	37.674	4
81/4	.5534	60.090	8
82/1	.5684	36.822	3

*Ommitted Dummy
Obs. - Number of Observations

Figure 4

Post 1974 Sale Trend Outside the Contamination Zone
(Table 10)



Time Yr/Qtr	Coeff.	F	Obs.
74/2	*	*	4
74/3	:0473	.348	5
74/4	-.0076	.012	8
75/1	-.0393	.203	4
75/2	.1138	1.745	3
75/3	.1823	5.944	6
75/4	.1052	1.619	5
76/1	-.0589	.513	4
76/2	.1353	2.845	5
76/3	.0624	.746	8
76/4	.0970	2.244	20
77/1	.1341	4.143	15
77/2	.1291	3.264	8
77/3	.1546	5.049	12
77/4	.1472	5.534	28
78/1	.2152	9.957	12
78/2	.2106	8.291	7
78/3	.2346	12.601	16
78/4	.2757	18.825	24
79/1	.2798	19.004	26
79/2	.3982	27.470	18
79/3	.3809	31.968	14
79/4	.5063	53.981	10
80/1	.4471	40.276	10
80/2	.4891	34.268	4
80/3	.5408	57.620	7
80/4	.5049	48.811	7
81/1	.4340	34.698	7
81/2	.4032	21.140	3
81/3	.5332	37.674	4
81/4	.5534	60.090	8
82/1	.5684	36.822	3

*Ommitted Dummy
Obs. - Number of Observations

In fact, the monitoring results were widely disputed by the residents of the area which throws doubt on the usefulness of the contamination zones as a proxy for contamination in our analysis.

The most fruitful approach to gauging the effect of a disamenity on residential property values was distance measured in concentric circles from the source of the disamenity. Distance variables representing quarter mile sections were constructed and substituted for the linear term. The resulting coefficients were plotted against distance and are displayed in Figure 5. At 1.75 miles from the dump, a statistically significant gradient may be observed.

A similar treatment of the distance variable (dummy variables constructed for distance from the disamenity) was used to test the "before" sample. These results may be observed in Figure 6 and equations 18, 19 and 26. However, the coefficients proved in this case not to be statistically significant. This suggests that the price gradient observed for sample 1 may be attributed to the effect of the dump.

Various functional forms were tried for the distance variable. Non-linear transformations of the distance variable, notably the reciprocal transformation (Tables 23 and 24), were found not to be statistically significant. The double log specification[4] tried on sample 2 (Table 22) also proved not to be significant.

[4]Natural log of dependent, as well as some independent, variables.

Figure 5

Distance Gradient After Contamination (Table 21)

Distance (miles)	Coeff.	Obs.	F
0 ≥ .25	*	5	*
.25 ≥ .50	*	21	*
.50 ≥ .75	.0238	105	.824
.75 ≥ 1.00	-.0304	122	1.133
1.00 ≥ 1.25	-.0301	56	.847
1.25 ≥ 1.50	-.0208	7	.135
1.50 ≥ 1.75	.0670	10	1.454
1.75 ≥ 2.00	.0850	54	4.174
2.00 ≥ 2.25	.1171	55	5.423
2.25 ≥ 2.50	.0175	21	.095
2.50 ≥ 2.75	.2244	3	3.905

*Ommitted Dummy

Obs. - Number of Observations

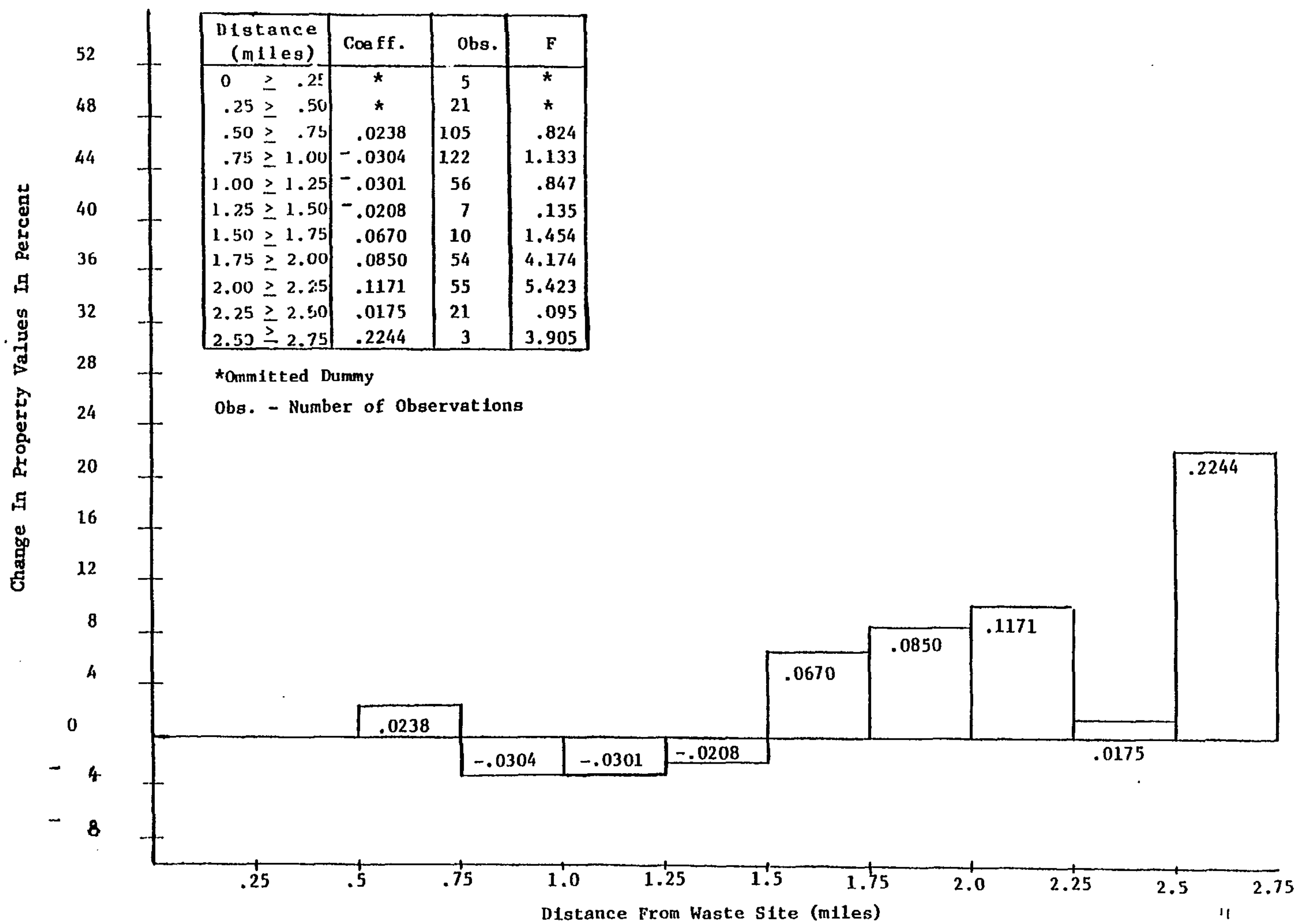


Figure 6

Distance Gradient Before Contamination (Table 26)

Distance (miles)	Coeff.	Obs.	F
0 ≥ .25	**	0	**
.25 ≥ .50	*	2	*
.50 ≥ .75	*	37	*
.75 ≥ 1.00	-.0003	85	0
1.00 ≥ 1.25	.0556	22	1.440
1.25 ≥ 1.50	.3014	2	.992
1.50 ≥ 1.75	.1086	6	1.222
1.75 ≥ 2.00	.0578	23	.433
2.00 ≥ 2.25	.0557	28	.213
2.25 ≥ 2.50	.0876	10	.313

*Ommitted Dummy
**No Observations
Obs. - Number of Observations

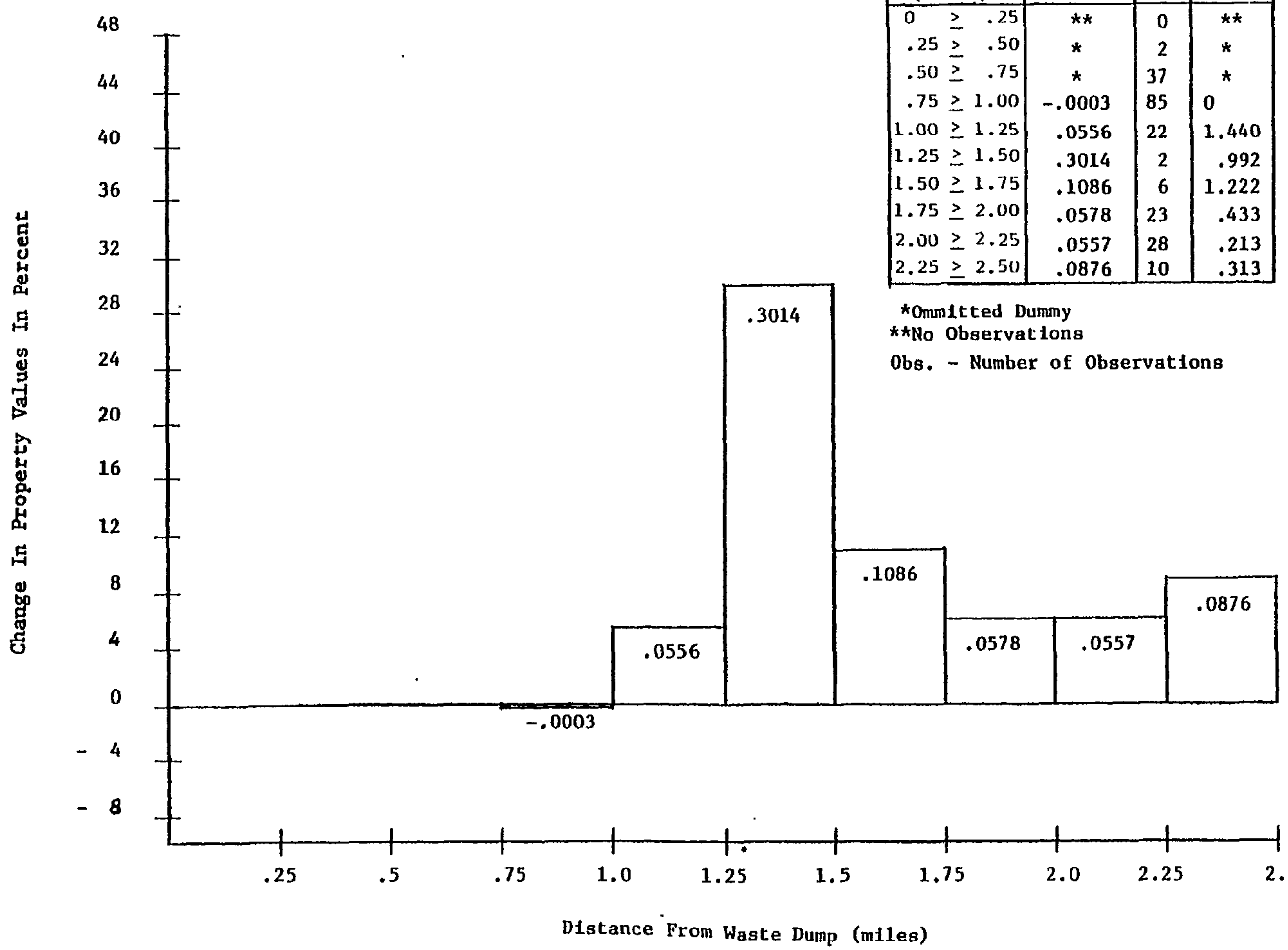


TABLE I

PROPERTY VALUES REGRESSED ON THE LINEAR FORM OF DISTANCE FROM THE WASTE SITE—SAMPLE I

----------- Variables in the equation -----------------

Variable	B	Std error B	F
DLF	0.1412815D+01	6.12650	0.053
LSZ	-0.3300416D-01	0.01370	5.802
GRG	0.4323341D+01	1.22736	12.408
RMD	0.2609426D+01	2.02015	1.668
AGE	-0.1115501D+00	0.05860	3.624
COND	-0.4873281D+01	2.92535	2.775
BMT	-0.3609043D+01	1.56784	5.299
BMTC	0.3320548D-01	1.92510	0.000
RM	-0.8909539D-01	0.71087	0.016
BDR	-0.6081043D+00	1.28632	0.223
ATT	-0.8147952D+01	3.92160	4.317
AIR	-0.1443362D+01	1.33870	1.162
FPL	-0.2744556D+01	1.49989	3.348
BTR	0.2252778D+01	1.59942	1.984
MDK	-0.2733063D+01	2.55976	1.140
HARE	0.1152690D-01	0.00236	23.895
PTD	0.4474179D-03	0.00542	0.007
DTBF	0.1945149D-02	0.00079	6.065
DHS	-0.8338445D+01	8.40115	0.985
DNS	-0.3316270D+01	6.58513	0.254
DAR	-0.8259952D+01	3.87839	4.536
DCBD	0.3488857D+01	3.11354	1.256
SDA	0.2307332D+02	7.68737	9.009
SDB	0.4077006D+02	5.11102	63.631
SDC	0.2830563D+02	5.76002	24.149
SDD	0.2363904D+02	6.31430	14.016
SDE	0.2491112D+02	5.37110	21.511
SDF	0.2876241D+02	5.23662	30.168
SDG	0.2678221D+02	5.54659	23.315
SDH	0.1765246D+02	6.55028	7.263
SDI	0.2380618D+02	5.21795	20.815
SDJ	0.2719390D+02	4.94277	30.269
SDK	0.1852021D+02	4.91417	14.203
SDL	0.1972768D+02	4.85172	16.533
SDM	0.1809605D+02	4.74581	14.539
SDN	0.1383422D+02	4.73932	8.521
SDO	0.1348197D+02	4.75173	8.050
SDP	0.1226818D+02	5.29290	5.372
SDQ	0.1250453D+02	4.97329	6.322
SDR	0.1107345D+02	4.48730	6.090
SDS	0.1003911D+02	5.22486	3.692
SDT	0.9319840D+01	5.06914	3.380
SDU	0.8519971D+01	4.85395	3.081
SDV	0.8768046D+01	4.67293	3.521
SDW	0.6757826D+01	5.30761	1.621
SDX	0.6863727D+01	6.17622	1.235
SDY	0.3461658D+01	6.91917	0.250
SDZ	0.4045789D+01	6.34327	0.407
SDAA	0.6261740D+01	5.86603	1.139
SDBB	0.5928024D+01	6.81676	0.756

SDCC	0.3048578D+01	5.33009	0.327
SDDD	0.7736741D+01	5.47920	1.994
SDEE	0.3849221D+01	5.33155	0.521
ZNA	0.7823481D+01	8.04175	0.946
ZNB	0.1659836D+02	8.28279	4.016
ZNC	0.8866928D+01	15.77653	0.316
ZND	0.7664798D+01	8.14564	0.885
ZNE	0.4065661D+01	7.68479	0.280
ZNF	0.1751909D+01	7.99933	0.048
ZNG	0.4782830D+02	16.66690	8.235
ZNI	0.2733269D+02	9.85125	7.682
ZNJ	0.9728696D+01	9.36678	1.079
ZNK	-0.1466959D+02	14.61946	1.007
ZNL	-0.3159153D+01	15.12438	0.044
ZNM	0.8711151D+01	10.02974	0.754
ZNN	0.5742701D+02	12.46650	21.220
HDEN	0.5344125D+00	0.96091	0.309
PDEN	0.1048673D+02	6.94484	2.280
UTSS	-0.1182485D+00	5.84763	0.000
UTST	0.1403324D+01	5.87319	0.057
UTWC	0.7568578D+01	11.98054	0.399
UTWW	0.1017962D+02	11.99629	0.720
CONB	0.2086391D+02	9.45667	4.868
CONF	0.1489284D+02	7.59603	3.844
CLE	-0.1649863D+02	6.47815	5.485
CLF	-0.2037459D+02	5.27341	14.928
CLG	0.4019578D+01	4.65586	0.745
CLI	0.5359969D+02	15.83650	11.455
PLG	0.1649002D+02	8.48080	3.781
PLV	0.7931958D+01	2.82146	7.903
DWD	0.7528829D+01	3.79953	3.926
DPW	0.3694339D+01	5.90198	0.392
DAC	0.1647354D+01	7.08547	0.054
(Constant)	-0.1124978D+02		

Analysis of variance	Df	Sum of squares	Mean square	F
Regression	85.	193976.75400	2204.28130	19.40349
Residual	350.	39760.81040	113.60232	

Multiple R	0.91098
R square	0.82989
Adjusted R square	0.78712
Standard error	10.65844

TABLE 2

NATURAL LOG OF PROPERTY VALUES REGRESSED ON THE RECIPROCAL FORM OF DISTANCE FROM THE WASTE SITE (I/D)—SAMPLE I

------------------ Variables in the equation ------------------

Variable	B	Std error B	F
LSZ	-0.6630251D-04	0.00021	0.099
GRG	0.5493812D-01	0.01962	7.837
RMD	0.5460910D-01	0.03195	2.922
AGE	-0.9733672D-03	0.00093	1.091
COND	-0.1960835D+00	0.04561	18.479
BMT	-0.5111098D-01	0.02478	4.255
BMTC	0.1509169D-02	0.03018	0.003
RM	-0.4334114D-02	0.01161	0.139
BDR	-0.4895672D-02	0.02037	0.058
ATT	-0.1306463D+00	0.06203	4.436
AIR	-0.3733059D-01	0.02107	3.139
FPL	-0.8195990D-01	0.02371	11.945
BTR	0.5512995D-01	0.02535	4.731
MDK	-0.5290027D-01	0.04043	1.712
HARE	0.1648665D-03	0.00004	18.037
PTD	-0.3496131D-04	0.00009	0.167
OTBF	0.2211784D-04	0.00001	3.310
DHS	-0.2449403D+00	0.12745	3.693
DNS	-0.2548452D-01	0.09755	0.068
DAR	-0.4714446D-01	0.06522	0.523
DCBD	-0.1635934D-01	0.03998	0.167
SDA	0.5507716D+00	0.12131	20.614
SDB	0.7138079D+00	0.08078	78.092
SDC	0.5981384D+00	0.09098	43.219
SDD	0.5483413D+00	0.09946	30.393
SDE	0.5348779D+00	0.08505	39.553
SDF	0.6060925D+00	0.08281	53.565
SDG	0.5964121D+00	0.08780	46.146
SDH	0.2882526D+00	0.10322	7.799
SDI	0.5304887D+00	0.08250	41.347
SDJ	0.5397698D+00	0.07817	47.677
SDK	0.4205421D+00	0.07784	29.188
SDL	0.4421705D+00	0.07676	33.182
SDM	0.3552565D+00	0.07621	21.732
SDN	0.3220181D+00	0.07476	18.555
SDO	0.3087895D+00	0.07532	16.807
SDP	0.3019393D+00	0.08374	13.001
SDQ	0.2682384D+00	0.07862	11.640
SDR	0.2533145D+00	0.07106	12.705
SDS	0.2466531D+00	0.08247	8.945
SDT	0.1929222D+00	0.08032	5.770
SDU	0.2196412D+00	0.07684	8.170
SDV	0.1954406D+00	0.07399	6.977
SDW	0.1236674D+00	0.08387	2.174
SDX	0.2427919D+00	0.09953	5.951
SDY	0.3925991D-01	0.10938	0.129
SDZ	0.2208794D+00	0.10017	4.863
SDAA	0.2189581D+00	0.09243	5.612
SDBB	0.1081496D+00	0.10754	1.011
SDCC	0.1576455D+00	0.08416	3.509

SDDD	0.1009566D+00	0.08647	1.363
SDEE	0.1114480D+00	0.08404	1.758
ZNA	-0.4479387D-01	0.10874	0.170
ZNB	0.7382624D-01	0.11941	0.382
ZNC	-0.1084743D+00	0.23993	0.204
ZND	-0.1637993D+00	0.12016	1.858
ZNE	-0.1407481D+00	0.11255	1.564
ZNF	-0.2987539D+00	0.11923	6.279
ZNG	0.5786292D+00	0.26326	4.831
ZNI	0.2826780D+00	0.15809	3.197
ZNJ	0.1326637D-01	0.12779	0.011
ZNK	-0.5408872D+00	0.23111	5.478
ZNL	-0.1142703D+01	0.22792	25.137
ZNM	-0.6672521D-01	0.15079	0.196
ZNN	0.5954443D+00	0.17967	10.983
HDEN	0.3624283D-01	0.01453	6.219
PDEN	0.1174021D+00	0.08442	1.934
UTSS	-0.3401583D-01	0.09161	0.138
UTST	0.2185819D-01	0.09103	0.058
UTWC	0.1319040D+00	0.18802	0.492
UTWW	0.1385929D+00	0.18919	0.537
CONB	0.3225711D+00	0.14928	4.670
CONF	0.2549412D+00	0.12022	4.497
CLE	-0.6384922D+00	0.19475	10.749
CLF	-0.5977309D+00	0.18513	10.425
CLH	-0.4285504D+00	0.18700	5.252
CLG	-0.3097686D+00	0.17985	2.966
CLI	-0.2067858D+00	0.30116	0.471
PLG	0.3135382D+00	0.13291	5.565
PLV	0.1066965D+00	0.04456	5.734
DWDD	0.2643728D-02	0.02292	0.013
DLFD	0.2421795D-01	0.02546	0.905
DPW	0.1324670D+00	0.07241	3.347
DAC	0.4339326D-01	0.07146	0.369
(Constant)	0.3707435D+01		

Analysis of variance	Df	Sum of squares	Mean square	F
Regression	84.	55.92320	0.66575	23.53283
Residual	354.	10.01479	0.02829	

Multiple R	0.92093
R square	0.84812
Adjusted R square	0.81208
Standard error	0.15820

TABLE 3

NATURAL LOG OF PROPERTY VALUES REGRESSED ON DISTANCE FROM THE WASTE SITE IN 1/4 MILE DUMMIES—SAMPLE I

------------------ Variables in the equation ------------------

Variable	B	Std error B	F
GRG	0.4572726D-01	0.01853	6.093
RMD	0.7477617D-01	0.03160	5.598
AGE	-0.6774822D-03	0.00090	0.571
COND	-0.1919982D+00	0.04340	19.571
BMT	-0.6179093D-01	0.02307	7.175
BDR	-0.1337370D-01	0.01546	0.748
ATT	-0.6884345D-01	0.05993	1.319
AIR	-0.3602167D-01	0.02046	3.101
FPL	-0.8890714D-01	0.02289	15.084
BTR	0.5627635D-01	0.02394	5.527
MDK	-0.2812608D-01	0.03834	0.538
HARE	0.1461187D-03	0.00004	17.136
DHS	-0.2084494D+00	0.12426	2.814
DCBD	0.1117762D+00	0.05229	4.570
SDA	0.5821057D+00	0.10974	28.136
SDB	0.7130704D+00	0.07802	83.536
SDC	0.5841315D+00	0.08917	42.909
SDD	0.5520202D+00	0.09448	34.135
SDE	0.4984548D+00	0.08273	36.299
SDF	0.6493353D+00	0.07945	66.791
SDG	0.5871979D+00	0.08378	49.119
SDH	0.3184602D+00	0.09941	10.263
SDI	0.5306352D+00	0.07957	44.475
SDJ	0.5370976D+00	0.07529	50.896
SDK	0.4213007D+00	0.07472	31.791
SDL	0.4416574D+00	0.07375	35.860
SDM	0.3580747D+00	0.07273	24.238
SDN	0.3292053D+00	0.07182	21.010
SDO	0.2958782D+00	0.07309	16.385
SDP	0.2830031D+00	0.08130	12.116
SDQ	0.2650667D+00	0.07603	12.155
SDR	0.2542239D+00	0.06883	13.642
SDS	0.2365474D+00	0.08047	8.642
SDT	0.1642847D+00	0.07818	4.415
SDU	0.2254526D+00	0.07450	9.157
SDV	0.2039744D+00	0.07164	8.107
SDW	0.1286485D+00	0.08029	2.567
SDX	0.2522161D+00	0.09430	7.154
SDY	0.2138392D-01	0.10632	0.040
SDZ	0.2033662D+00	0.09664	4.429
SDAA	0.2304814D+00	0.08965	6.609
SDBB	0.1346784D+00	0.10468	1.655
SDCC	0.1574253D+00	0.08176	3.707
SDDD	0.1087792D+00	0.08381	1.684
SDEE	0.9910778D-01	0.08140	1.482
ZNA	0.1782351D+00	0.07789	5.236
ZNB	0.2157243D+00	0.07338	8.642
ZNE	-0.1269482D-01	0.04610	0.076
ZNF	-0.1822538D+00	0.04865	14.035
ZNG	0.1005317D+01	0.18990	28.027
ZNI	0.4594455D+00	0.11254	16.596

ZNJ	0.1430776D+00	0.08447	2.869
ZNK	-0.3127513D+00	0.19122	2.675
ZNL	-0.9734848D+00	0.20489	22.573
ZNN	0.6620033D+00	0.13026	25.829
HDEN	0.1474943D-01	0.01406	1.100
PDEN	0.2089186D+00	0.08996	5.393
CLE	-0.7266492D+00	0.19646	13.681
CLF	-0.6984778D+00	0.18777	13.838
CLG	-0.3989091D+00	0.18356	4.723
CLH	-0.4836872D+00	0.18862	6.576
CLI	-0.4342772D+00	0.29643	2.146
CONB	0.2624463D+00	0.14447	3.300
CONF	0.1506241D+00	0.11267	1.787
PLG	0.3193317D+00	0.12847	6.178
PLV	0.1163286D+00	0.04248	7.497
DPW	0.1495537D+00	0.06322	5.596
DAC	-0.1735949D+00	0.09510	3.332
DD12	0.3115856D+00	0.17165	3.295
DD2	-0.1341313D+00	0.08833	2.306
DD3	-0.1349940D+00	0.08688	2.414
DD4	-0.1762974D+00	0.08769	4.042
DD5	-0.1151528D+00	0.08836	1.698
DD6	-0.1381083D+00	0.10354	1.779
DD7	0.1382624D-01	0.09243	0.022
DD8	0.1317168D+00	0.09936	1.757
DD9	0.8355525D-01	0.10835	0.595
DD11	0.4864406D+00	0.22318	4.750
(Constant)	0.3735413D+01		

Analysis of variance	Df	Sum of squares	Mean square	F
Regression	78.	56.18608	0.72033	26.59177
Residual	360.	9.75190	0.02709	

Multiple R	0.92310
R square	0.85210
Adjusted R square	0.82006
Standard error	0.16459